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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,344	08/10/2001	Gerhard Hans Schleser	21975	4119
535	7590	12/08/2004		
THE FIRM OF KARL F ROSS 5676 RIVERDALE AVENUE PO BOX 900 RIVERDALE (BRONX), NY 10471-0900			EXAMINER GAKH, YELENA G	
			ART UNIT 1743	PAPER NUMBER

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/913,344

Applicant(s)

SCHLESER ET AL.

Examiner

Yelena G. Gakh, Ph.D.

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9, 11-14 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9, 11-14 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Amendment filed on 10/07/04 is acknowledged. Claims 9, 11-14 and 18 are pending in the application.

#### *Response to Amendment*

2. In response to the amendment the rejection is slightly modified.

#### *Claim Objections*

3. Claim 9 is objected to because of the following informalities: it appears to miss and” before “an induction heating source”. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 9-14 and 18** are rejected under 35 U.S.C. 102(b) as being anticipated by Glavin et al. (SU 394,699).

Glavin discloses “an apparatus for extracting gaseous impurities from analyzed metals and their alloys” (Title) teaching the following: “increased accuracy, sensitivity and speed of analysis are obtained by placing the h.f. inductive current concentrator inside the cooling jacket of the vacuum furnace. The concentrator is made in the form of demountable copper cylinder inside which is soldered the h.f. inductor coil. This construction greatly accelerates the crucible degassing and sample melting stages, which reduces the analysis time. The furnace operates at 10-6 torr. and the inductor and concentrator focus the radiation from inductor on to the crucible.

Art Unit: 1743

The latter is made from graphite and heats up to 2500-2700 degrees C for degassing. After this the sample is introduced and melted and the generated gases are pumped to qualitative and quantitative gas analysis. The degassing time takes 1-3 mins. and the analysis time 1-2 mins" (Abstract). The apparatus comprises quartz water-cooled vacuum induction furnace (1), high-voltage high-frequency inductor (2), graphite crucible (3), graphite screen (4), current concentrator (5) and inductor (6). The outlet for pumping the gases out of the apparatus can serve as a duct for admitting a carrier gas. The rod on which the graphite crucible is mounted to be placed in the housing is shown in the Figure (without the reference number).

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 1743

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. **Claims 9-10 and 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Atkinson (GB 1,052,907, IDS) in view of Glavin.

Atkinson discloses an apparatus for removing oxygen from solid (copper and copper alloys) in form of carbon oxides by melting alloy in a graphite crucible; the apparatus comprises the graphite crucible (col. 2, line 59, Fig. 1, A and H), provided in a "transparent fused silica envelope (Z)" attached to the pump to create high vacuum, col. 3, lines 59-64); a rode (W) with which the graphite cuvette can be mounted in the housing; and heating induction means (X,Y). Atkinson specifically describes the process of removing oxygen from copper and copper alloy as carbon oxide formed in the reaction with carbon of the graphite crucible (col. 1, lines 30-33).

Although Atkinson indicates "transparent fused silica envelope", rather than a "quartz glass housing", the quartz glass housing is a conventional housing for graphite crucibles used in high-temperature measurements, as taught e.g. by Glavin. Therefore, it would have been obvious for any person of ordinary skill in the art use quartz glass housing taught by Glavin, because it is conventionally used for high-temperature measurements.

### ***Response to Arguments***

10. Applicant's arguments filed 10/07/04 have been fully considered but they are not persuasive. A vacuum-tight quartz glass housing and a vacuum pump added as the structural limitations in claim 9 are disclosed by Glavin. Changing the expression "capable of heating" to "heating" does not change the essence of the limitation related to the heating element. If there is a heating element, it is both capable of heating and it is heating during the operation. Reaction of oxygen with carbon of the graphite crucible is not a part of the apparatus and therefore is not a limitation to its structure. It does not bear any patentable weight in the apparatus claims pending in the application. Both Atkinson and Glavin teach solids (metals) containing gaseous impurities, with Atkinson specifically teaching oxygen gas impurities, and reacting oxygen gas with carbon of the graphite crucible. While Glavin does not specifically indicate determining oxygen, it is conventionally admitted that oxygen is one of gaseous impurities in metal alloys.

Art Unit: 1743

In view of both Atkinson and Glavin's disclosures the Applicants' statement that "there is no teaching of a crucible which contains an oxygen-containing solid" in the cited references, is not quite clear to the examiner. Moreover, Atkinson specifically teaches reaction of liberated oxygen from molten metal alloys with carbon of graphite crucible, and thus the Applicants' statement that the references disclose melting metal to release gases "without any teaching of reaction with the graphite crucible" is just incorrect. Galvin on the other hand teaches all apparatus limitations recited in the pending claims.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

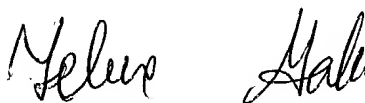
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

Art Unit: 1743

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yelena G. Gakh  
12/6/04

A handwritten signature in cursive script, appearing to read 'Yelena Gakh', is positioned to the right of the typed name and date.